

INCH-POUND

MIL-T-27/187C
2 June 2003
SUPERSEDING
MIL-T-27/187B
13 March 1991

MILITARY SPECIFICATION SHEET

TRANSFORMER, POWER, STEP-DOWN, AUTOTRANSFORMER

Inactive for new design
after 13 March 1991

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the products described herein shall consist of this specification and MIL-PRF-27.

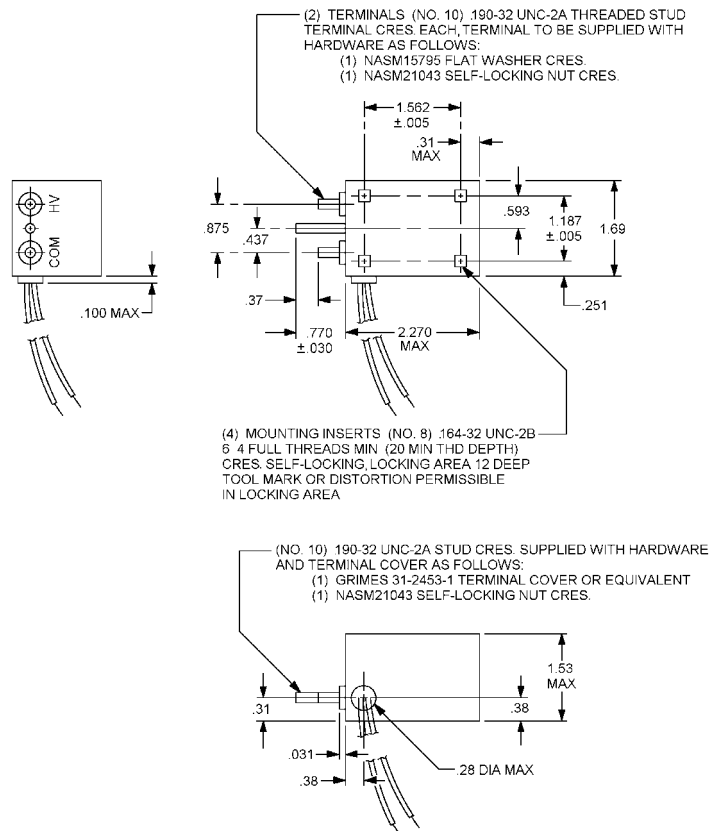
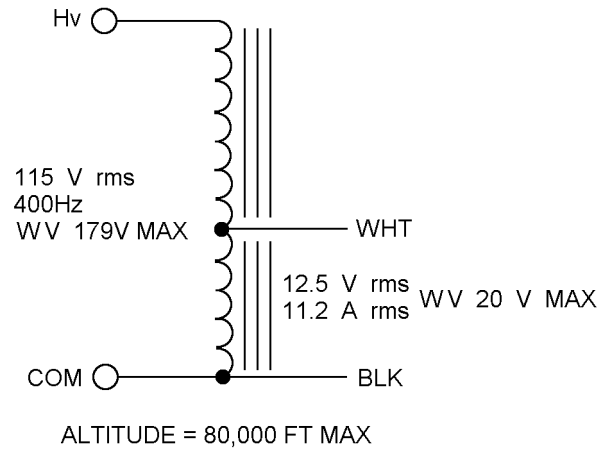


FIGURE 1. Dimensions and configuration.



Inches	mm	Inches	mm	Inches	mm
.005	0.13	.28	7.1	.875	22.22
.031	0.79	.31	7.9	1.187	30.15
.100	2.54	.37	9.4	1.53	38.9
.164	4.17	.38	9.7	1.562	41.96
.190	4.83	.437	11.10	1.69	42.9
.20	5.1	.593	15.06	2.270	57.69
.251	6.38	.770	19.56		

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are $\pm .010$ (0.25 mm) for three place dimensions and $\pm .03$ (0.8 mm) for two place dimensions.
4. Marking shall be on the top of the case.
5. Stud shoulder shall form an integral part of the threaded stud terminal.

FIGURE 1. Dimensions and configurations – Continued.

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REQUIREMENTS: (When designations or colors in parentheses, i.e., (COM-HV) (BLK-WHT) are used, they indicate the winding and the extreme terminals of the winding.)

Electrical ratings:

Primary (COM-HV): 173 volts ampere, 115 volts rms, 400 hertz.

Secondary (BLK-WHT): 12.5 volts rms, 11.2 amperes rms.

Working voltage:

(COM-HV): 179 volts maximum.

(BLK-WHT): 20 volts maximum.

DC resistance: At ambient temperature of +20°C.

(BLK-WHT): 0.057 ohm \pm 15 percent.

(WHT-HV): 1.45 ohms \pm 15 percent.

Design and construction:

Dimensions and configuration: See figure 1.

Duty cycle: Continuous.

Case: Diallyl phthalate (ASTM D 5948-96).

Weight: 0.820 pound maximum.

Terminal type:

Primary: Corrosion-resistant steel, threaded integral shoulder-stud.

Secondary: Number 18 AWG insulated lead wire in accordance with MIL-DTL-16878, type EE.)

Terminal height:

Primary: See figure 1.

Terminal length:

Secondary: 16 \pm 1 inch.

Altitude: 80,000 feet maximum.

Operating temperature range: -54°C to +170°C.

Operating temperature: +170°C maximum.

Insulating materials:

Magnet wire insulation: Modified polyester base, polyamide-imide overcoat, +200°C.

Encapsulated material: Epoxy, +170°C.

Paper: Aramid, +220°C.

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Tape:

Backings: Polyamide film, glass cloth, aramid paper, +220°C.

Adhesive: Silicone, +180°C.

Bobbin: Aramid, +220°C.

Housing: Diallyl phthalate, +180°C.

Terminal strength: MIL-STD-202, method 211, test condition A, 5 pounds.

Vibration, high frequency: MIL-STD-202, method 204, test condition D.

Salt spray (corrosion): MIL-STD-202, method 101, test condition B.

Dielectric withstanding voltage:

At sea level: 500 volts rms.

At barometric pressure: 300 volts rms.

Electrical characteristics:

No load: With 115 volts rms, 400 hertz across (COM-HV).

Current in (COM-HV): 150 milliamperes maximum.

Power in (COM-HV): 2.9 watts maximum.

Voltage across (BLK-WHT): 13.7 volts rms \pm 2 percent.

Rated load: With 115 volts rms, 400 hertz across (COM-HV)

Voltage across (BLK-WHT): 12.5 –0, +0.4 volts rms at an ambient temperature of +70°C.

Voltage across (BLK-WHT): 12.5 –0, +0.7 volts rms at an ambient temperature of +25°C.

Temperature rise: +100°C with 115 volts rms, 400 hertz across (COM-HV) at an ambient temperature of +70°C.

Voltage regulation: 10 percent maximum.

Quality assurance provisions:

Qualification inspection: Not applicable.

Quality conformance inspection: Groups A and B tests of MIL-PRF-27 shall be applicable.

Marking location: See figure 1.

Part or Identifying Number (PIN): M27/187-01.

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Custodians:

Army – CR
Navy – EC
Air Force – 11

Preparing activity:

DLA – CC

(Project 5950-1147)

Review activities:

Army – AR, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 19, 99